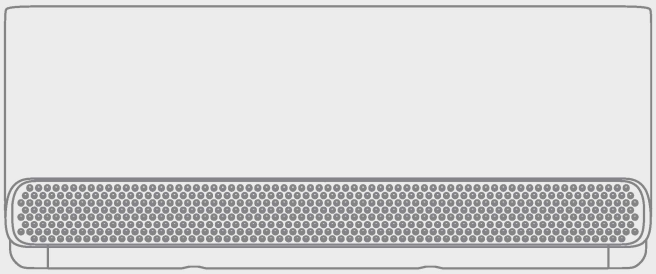

Split Type Air Conditioner

MSmartHome

Download the app
& activate product

USER MANUAL

MODEL NUMBER:

MSCB1BU-09HRFN8
MSCB1BU-12HRFN8

Warning notices: Before using this product, please read this manual and SAFETY MANUAL(if any) carefully and keep it for future reference. The design and specifications are subject to change without prior notice for product improvement. Consult with your dealer or manufacturer for details.The diagram above is just for reference. Please take the appearance of the actual product as the standard.

THANK YOU LETTER

Thank you for choosing Midea! Before using your new Midea product, please read this manual thoroughly to ensure that you know how to operate the features and functions that your new appliance offers in a safe way.

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SAFETY PRECAUTIONS

It’s really important that you read the safety precautions before operation and installation. Incorrect installation can cause serious damage or injury.

Explanation of Symbols

	**Warning of electrical voltage** This symbol indicates voltage that poses risk of death or injury.
	**Warning** The “Warning” symbol indicates a hazard with a medium degree of risk which may cause death or serious injury.
	**Caution** The “Caution”signal indicates a hazard with a low degree of risk which may cause moderate injury.
	**Attention** Important information is indicated by the “Attention” symbol where there is no danger to people but where damage may occur or it is a point of particular relevance.
	**Observe** This symbol indicates that a service technician should only operate and maintain this appliance in accordance with the operating instructions.

Read these operating instructions carefully and attentively before using/commissioning the unit and keep them in the immediate vicinity of the installation site or unit for later use!

⚠ WARNING

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision(European Union countries).

This appliance is not intended for use by persons(including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

⚠ WARNING FOR PRODUCT USE

- If an abnormal situation arises (e.g. a burning smell), immediately turn off the unit and disconnect the power. Call your dealer for instructions to avoid electric shock, fire or injury.
- Do not insert fingers, rods or other objects into the air inlet or outlet. This may cause injury, as the fan may be rotating at high speeds.
- Do not use flammable sprays such as hair spray, lacquer or paint near the unit. This may cause fire or combustion.
- Do not operate the air conditioner in places near or around combustible gases. Emitted gas may collect around the unit and cause an explosion.
- Do not operate your air conditioner in a wet room such as a bathroom or laundry room. Too much exposure to moisture can cause electrical components to short circuit.
- Do not expose your body directly to cool air for a prolonged period of time.
- Do not allow children to play with the air conditioner. Children must be supervised around the unit at all times.
- If the air conditioner is used together with burners or other heating devices, thoroughly ventilate the room to avoid oxygen deficiency.
- In certain functional environments, such as kitchens, server rooms, etc., the use of specially designed air-conditioning units is highly recommended.

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⚠ ELECTRICAL WARNING

- Only use the specified power cord. If the power cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- The product must be properly grounded at the time of installation, or electrical shock may occur.
- For all electrical work, follow local and national wiring standards, regulations, and as well as consulting the installation manual. Connect cables properly, and clamp them securely to prevent external forces from damaging the terminal. Improper electrical connections can overheat and cause fire, and or cause electrical shock. All electrical connections must be made according to the Electrical Connection Diagram located on the panels of the indoor and outdoor units.
- All wiring must be properly arranged to ensure that the control board cover can close properly. If the control board cover is not closed properly, it can lead to corrosion and cause the connection points on the terminal to heat up, catch fire, or cause electrical shock.
- Disconnection must be incorporated in the fixed wiring in accordance with the wiring regulations.
- Do not pull power cord to unplug unit. Hold the plug firmly and pull it from the outlet. Pulling directly on the cord can damage it, which can lead to fire or electric shock.
- Do not modify the length of the power supply cord or use an extension cord to power the unit.
- Do not share the electrical outlet with other appliances. Improper or insufficient power supply can cause fire or electrical shock.
- Keep the power plug clean. Remove any dust or grime that accumulates on or around the plug. Dirty plugs can cause fire or electric shock.
- If connecting power to fixed wiring, an all-pole disconnection device which has at least 3mm clearances in all poles, and have a leakage current that may exceed 10mA, the residual current device(RCD) having a rated residual operating current not exceeding 30mA, and disconnection must be incorporated in the fixed wiring ‘ in accordance with the wiring rules.

TAKE NOTE OF FUSE SPECIFICATIONS

The air conditioner's circuit board (PCB) is designed with a fuse to provide overcurrent protection. The specifications of the fuse are printed on the circuit board , for example : T3.15AL/250VAC, T5AL/250VAC, T3.15A/250VAC, T5A/250VAC, T20A/250VAC, T30A/250VAC,etc.

NOTE: For the units with R32 refrigerant , only the blast-proof ceramic fuse can be used.

UV-C lamp(Applicable to the unit contains an UV-C lamp only)

This appliance contains a UV-C lamp. Read the maintenance instructions before opening the appliance.

- Do not operate UV-C lamps outside of the appliance.
- Appliances that are obviously damaged must not be operated.
- Unintended use of the appliance or damage to the housing may result in the escape of dangerous UV-C radiation. UV-C radiation may, even in small doses, cause harm to the eyes and skin.
- Before opening doors and access panels bearing the ULTRAVIOLET RADIATION hazard symbol for the conducting USER MAINTENANCE, it is recommended to disconnect the power.
- The UV-C lamp can not be cleaned, repaired and replaced.
- UV-C BARRIERS bearing the ULTRAVIOLET RADIATION hazard symbol should not be removed.

⚠ WARNING This appliance contains an UV emitter. Do not stare at the light source.

⚠ PRODUCT INSTALLATION WARNING

- Installation must be performed by an authorized dealer or specialist. Defective installation can cause water leakage, electrical shock, or fire.
- Installation must be performed according to the installation instructions. Improper installation can cause water leakage, electrical shock, or fire.
- Contact an authorized service technician for repair or maintenance of this unit. This appliance shall be installed in accordance with national wiring regulations.
- Only use the included accessories, and specified parts for installation. Using non-standard parts can cause water leakage, electrical shock, fire, and or cause the unit to fail.
- Install the unit in a sturdy location that can support the unit's weight. If the chosen location cannot support the unit's weight, or the installation is not done properly, the unit may drop and cause serious injury or damage.
- Install drainage piping according to the instructions in this manual. Improper drainage may cause water damage to your home and property.
- For units that have an auxiliary electric heater, do not install the unit within 1 meter (3 feet) of any combustible materials.
- Do not install the unit in a location that may be exposed to combustible gas leaks. If combustible gas accumulates around the unit, it may cause fire.
- Do not turn on the power until all work has been completed.
- Only a qualified technician may move or relocate the air conditioner.
- Pleae read the sections covering the indoor and outdoor unit installation for additional information.

⚠ CAUTION

- Turn off the air conditioner and disconnect the power if you are not going to use it for a long time.
- Turn off and unplug the unit during storms.
- Make sure that water condensation can drain unimpeded from the unit.
- Do not operate the air conditioner with wet hands. This may cause electric shock.
- Do not use the device for any purpose other than its intended use.
- Do not climb onto or place objects on top of the outdoor unit.
- Do not allow the air conditioner to operate for long periods of time with doors or windows open, or if the humidity is very high.

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CLEANING AND MAINTENANCE WARNINGS

- Turn off the device and disconnect the power before cleaning. Failure to do so can cause electrical shock.
- A moist cloth may be used to clean the device. It should not be wased with water.
- Do not clean the air conditioner with combustible cleaning agents. Combustible cleaning agents can cause fire or deformation.

Note about Fluorinated Gasses(Not applicable to units using R290 Refrigerant)

- This air-conditioning unit contains fluorinated greenhouse gasses. For specific information on the type of gas and the amount, please refer to the relevant label on the unit itself or the “Owner's Manual - Product Fiche ” in the packaging of the outdoor unit. (European Union products only).
- Installation, service, maintenance and repair of this unit must be performed by a certified technician.
- Product uninstallation and recycling must be performed by a certified technician.
- For equipment that contains fluorinated greenhouse gases in quantities of 5 tonnes of CO2 equivalent or more, but of less than 50 tonnes of CO2 equivalent, If the system has a leak-detection system installed, it must be checked for leaks at least every 24 months.
- When the unit is checked for leaks, proper record-keeping of all checks is strongly recommended.

⚠ WARNING FOR USING R32/R290 REFRIGERANT

- When flammable refrigerants are employed, appliances shall be stored in a well ventilated area where the room size corresponds to the room area as specified for operation.
- For R32 refrigerant models:
  Appliances shall be installed, operated and stored in a room with a floor area larger than $4m^2$.
- For R290 refrigerant models, appliance shall be installed, operated and stored in a room with a floor area larger than:
  <=2.6kW units: $17.33m^2$
  >2.6kW and <=3.5kW units: $25.4m^2$
  >3.5kW and <=5.2kW units: $34.67m^2$
  >5.3kW and <=7.1kW units: $47.33m^2$
- Reusable mechanical connectors and flared joints are not allowed indoors.

SPECIFICATIONS

Product Model	MSCB1BU-09HRFN8	MSCB1BU-12HRFN8	MSCB1CU-18HRFN8
Power source	220-240V~ 50Hz, 1Ph		
Cooling capacity(kW)	2.8	3.6	5.3
Heating capacity(kW)	2.93	3.81	5.6
Rated current(A)	10.5	10.5	13.0
Rated power input(W)	2200	2200	2950
Refrigerant(kg)	R32/0.55	R32/0.62	R32/1.1

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PRODUCT OVERVIEW

NOTE ON ILLUSTRATIONS:

Illustrations in this manual are for explanatory purposes. The actual shape of your indoor unit may be slightly different.

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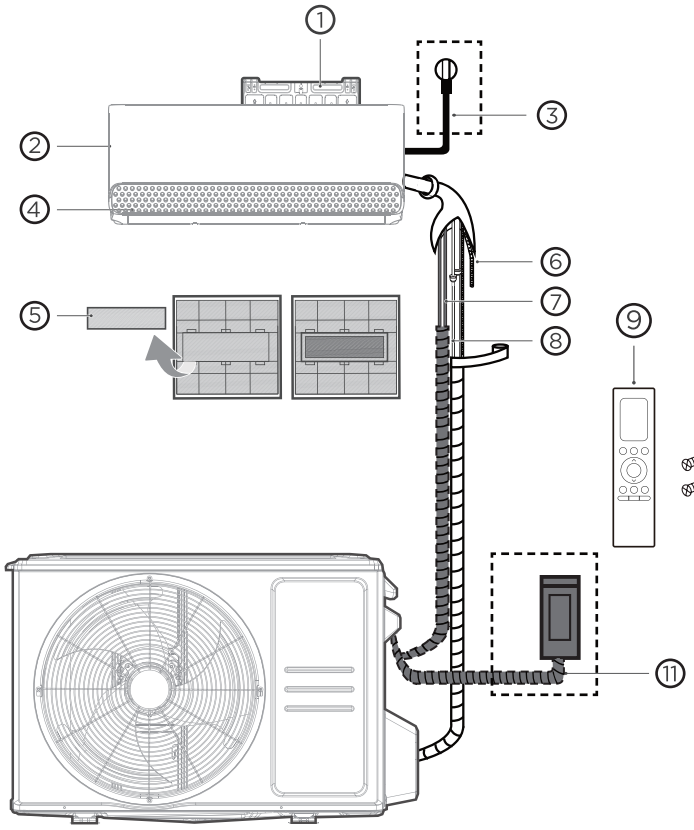
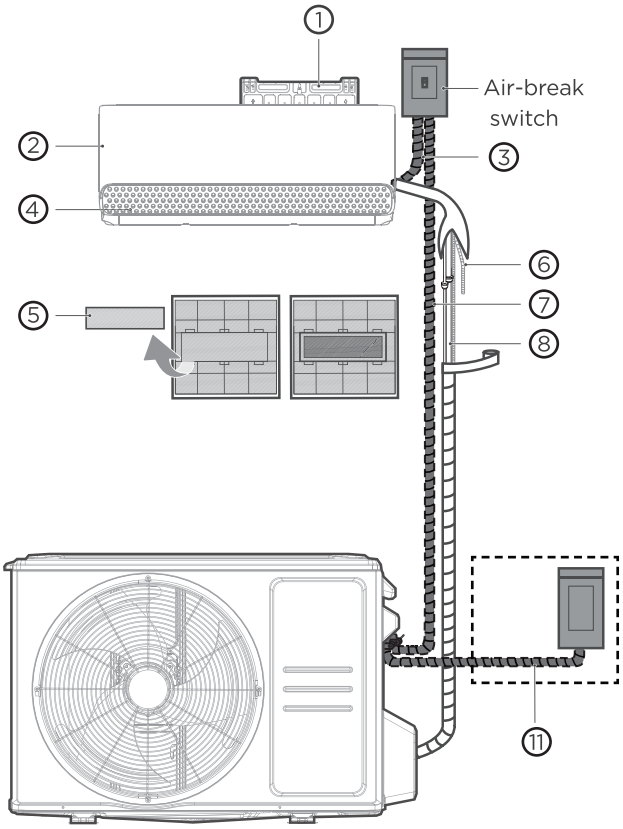


(1)



(2)

① Wall Mounting Plate

② Front Panel

③ Power Cable(not all units)

④ Louver

⑤ Functional Filter (On Back of Main Filter - Some Units)

⑥ Drainage Pipe

⑦ Signal Cable

⑧ Refrigerant Piping

⑨ Remote Controller

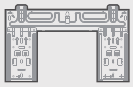
⑩ Remote controller Holder (not supplied)

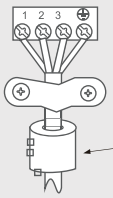
⑪ Outdoor Unit Power Cable (not all units)

PRODUCTION INSTALLATION

Accessories

The air conditioning system comes with the following accessories. Use all of the installation parts and accessories to install the air conditioner. Improper installation may result in water leakage, electrical shock and fire, or cause the equipment to fail. The items are not included with the air conditioner must be purchased separately.

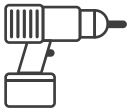
Name of Accessories	Q'ty(pc)	Shape	Name of Accessories	Q'ty(pc)	Shape
Manual	1-3		Remote controller	1	
Drain joint (for cooling & heating models)	1		Battery	2	
Seal (for cooling & heating models)	1		Remote controller holder(sold separately)	1	
Mounting plate	1		Fixing screw for remote controller holder(sold separately)	2	
Anchor	5~8 (depending on models)		**Small Filter** (needs to be installed behind the main air filter by an authorized technician during installation)	1~2 (depending on models)	
Mounting plate fixing screw	5~8 (depending on models)				

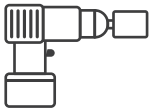
Name	Shape		Quantity(PC)
Connecting pipe assembly	Liquid side	Φ6.35(1/4in)	Connective pipes must be purchased separately. Please consult the dealer for the correct size for the unit purchased
		Φ9.52(3/8in)	
	Gas side	Φ9.52(3/8in)	
		Φ12.7(1/2in)	
		Φ16(5/8in)	
		Φ19(3/4in)	
Magnetic ring and belt (Not all units. Where applicable, please refer to the wiring diagram)	  Pass the belt(packed with the magnetic ring) through the hole of the magnetic ring to fix it to the cable		Varies by model

Tools required


Gloves


Screwdriver & wrench


Hammer drill


Core drill


Goggles & masks


Vinyl tape

Installation summary - indoor unit

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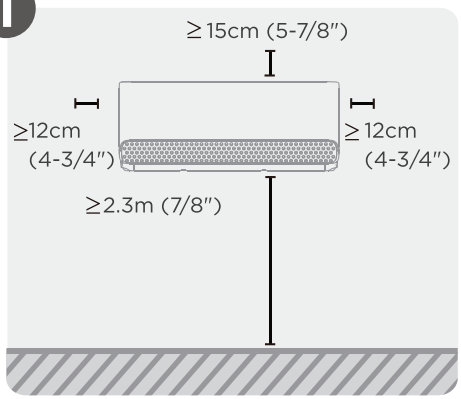
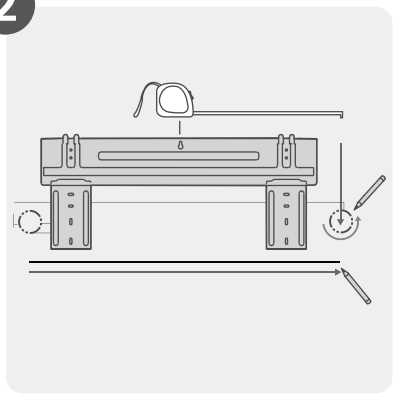
1



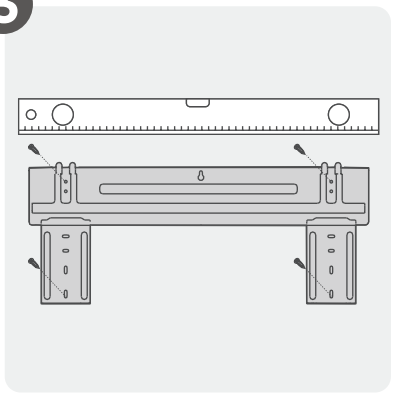
Select installation location

2



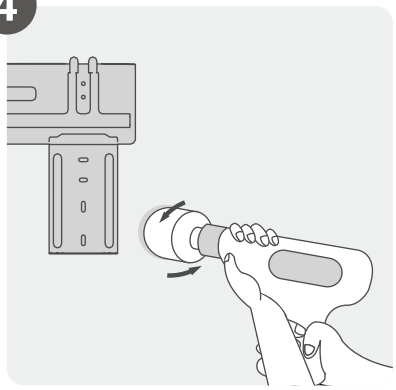
Attach mounting plate

3



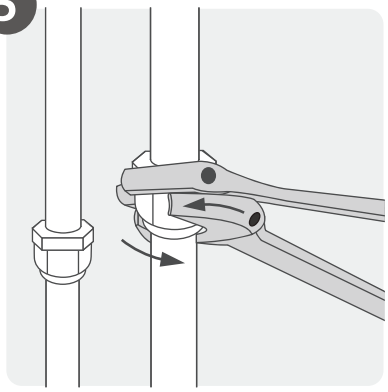
Determine wall hole position

4



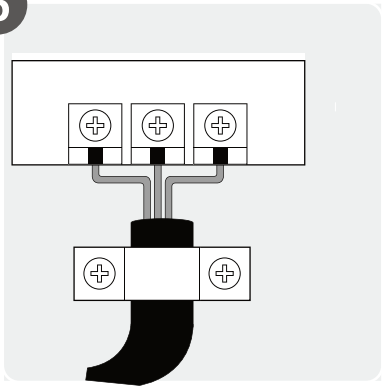
Drill wall hole

5



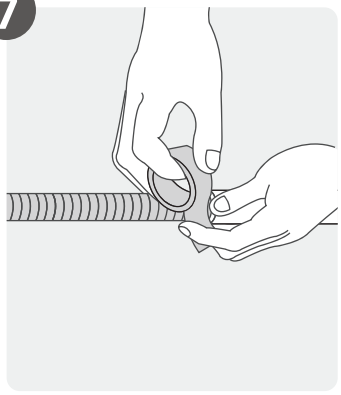
Connect piping

6



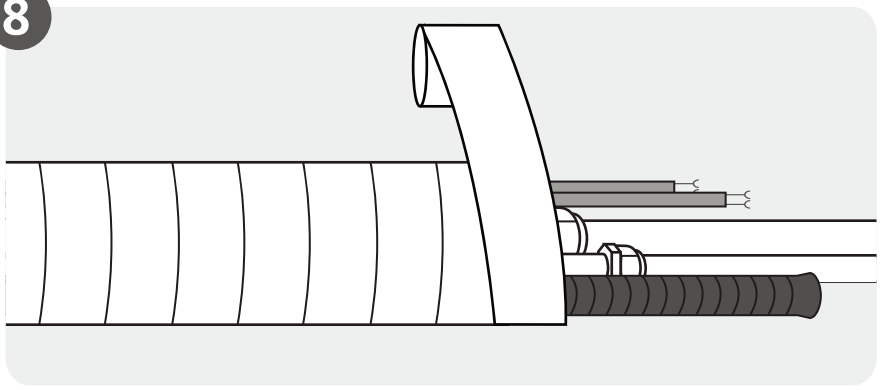
Connect wiring
(Not applicable for some Locations in north america)

7



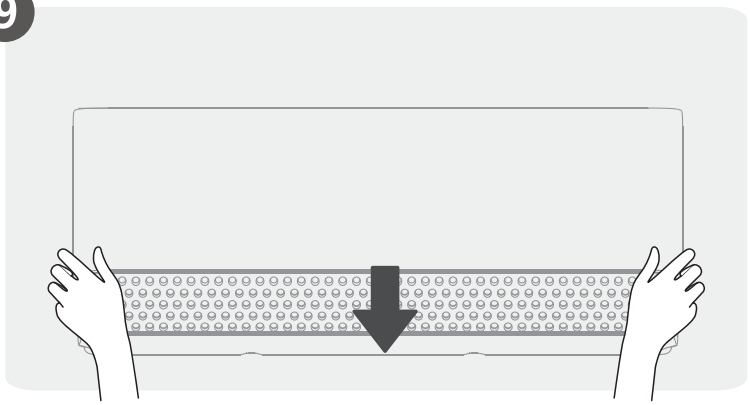
Prepare drain hose

8



Wrap piping and cable
(Not applicable for some locations in north america)

9



Mount indoor unit

Installation Of Indoor Unit

1 Select installation location

NOTE : PRIOR TO INSTALLATION

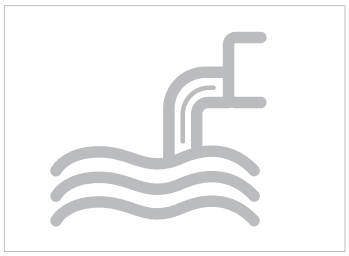
Before installing the indoor unit, refer to the label on the product box to make sure that the model number of the indoor unit matches the model number of the outdoor unit.

EN

The following are standards that will help you choose an appropriate location for the unit.

Proper installation locations meet the following standards:

☑ Good air circulation

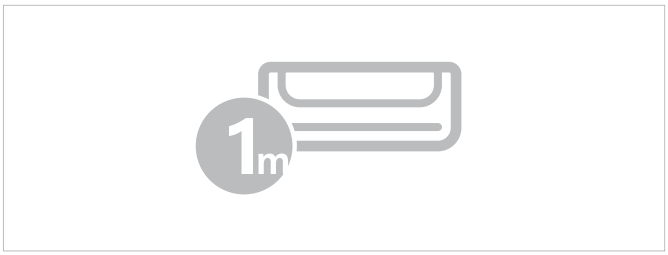


☑ Convenient drainage

☑ Noise from the unit will not disturb other people.

☑ Firm and solid—the location will not vibrate

☑ Strong enough to support the weight of the unit



☑ A location at least one meter from all other electrical devices (e.g., TV, radio, computer)

DO NOT install unit in the following locations:

⊘ Near any source of heat, steam, or combustible gas

⊘ Near flammable items such as curtains or clothing

⊘ Near any obstacle that might block air circulation

⊘ Near the doorway

⊘ In a location subject to direct sunlight

NOTE: For product installation

If there is no fixed refrigerant piping:
When choosing a location, be aware that you should leave ample room for a wall hole (see Drill wall hole for connective piping step) for the signal cable and refrigerant piping that connect the indoor and outdoor units. The default position for all piping is the right side of the indoor unit (while facing the unit). However, the unit can accommodate piping to both the left and right.

2 Drill wall hole for connective piping

Determine wall hole location

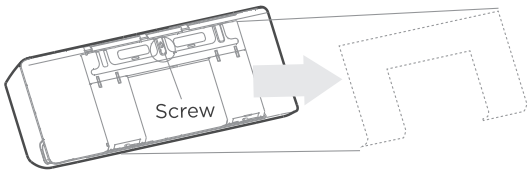
NOTE : THE WALL HOLE SIZE

The size of the wall hole is determined by the connective pipes. When the size of the gas side connective pipe is Φ16mm(5/8″) or more, the wall hole should be 90mm(3-9/16″). For the size of connective pipe is less than Φ16mm(5/8″), the wall hole should be 65mm(2-1/2″).

EN

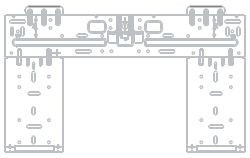
Step 1:

Remove the screw that attaches the mounting plate to the back of the indoor unit.

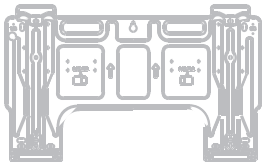


Step 2:

Different models have different mounting plates. For the different customization requirements, the shape of the mounting plate may be slightly different. But the installation dimensions are the same for the same size of indoor unit.
See Type A and Type B for example.



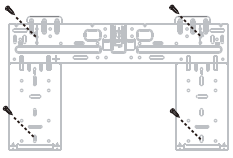
Type A

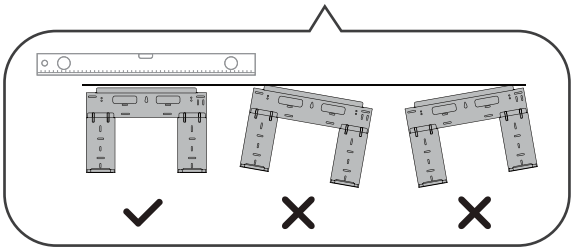


Type B

Step 3:

Secure the mounting plate to the wall with the screws provided. Make sure that mounting plate is flat against the wall.





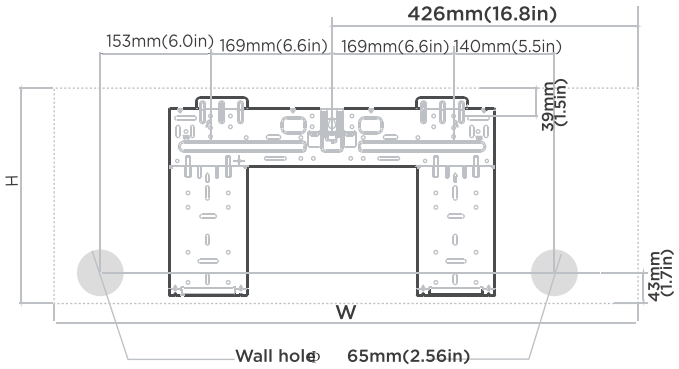
Correct orientation of Mounting Plate

NOTE : FOR CONCRETE OR BRICK WALLS

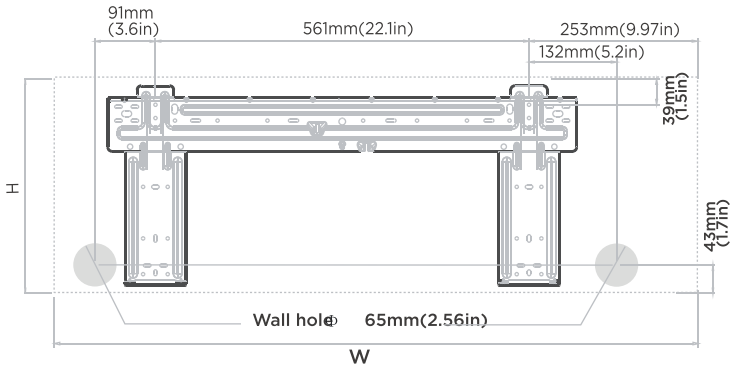
If the wall is made of brick, concrete, or similar material, drill 5mm-diameter (0.2in-diameter) holes in the wall and insert the sleeve anchors provided. Then secure the mounting plate to the wall by tightening the screws directly into the clip anchors.

Step 4:

Confirm the mounting plate you own. Determine the location of the wall hole based on the position of the mounting plate.The dotted rectangular box above shows the size of your product.



Indoor unit demensions(WxH):
812mm(40.0in)x299mm(11.8in)

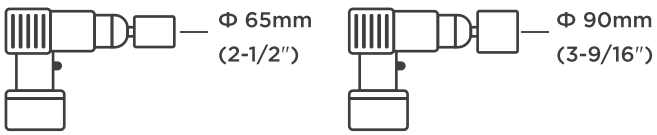


Indoor unit demensions(WxH):
968mm(38.1in)x322mm(12.7in)

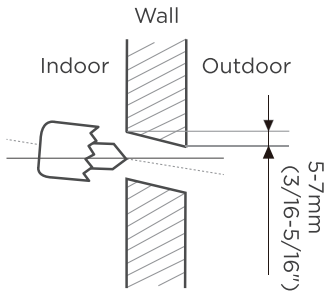
⚠ CAUTION

When drilling the wall hole, make sure to avoid wires, plumbing, and other sensitive components.

Drill wall hole



Using a 65mm (2-1/2″) or 90mm(3-9/16″) core drill(depending on models)



Drill the wall hole

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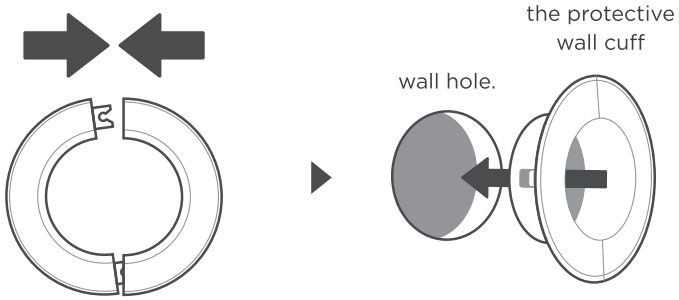
Step 1:

Using a 65mm (2.5″) or 90mm(3.54″) core drill(depending on models), drill a hole in the wall. Make sure that the hole is drilled at a slight downward angle, so that the outdoor end of the hole is lower than the indoor end by about 5mm to 7mm (3/16-5/16″). This will ensure proper water drainage.



Place the protective wall cuff in the hole.

Step 2:

Place the protective wall cuff in the hole. This protects the edges of the hole and will help seal it when you finish the installation process.

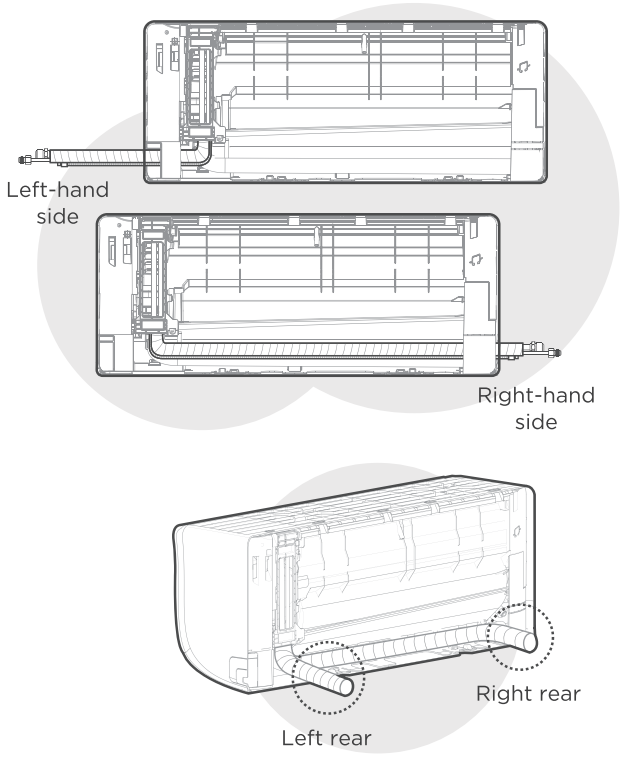
3 Install refrigerant pipe & drain hose

NOTE

The refrigerant piping is inside an insulating sleeve attached to the back of the unit. You must prepare the piping before passing it through the hole in the wall.

Prepare refrigerant piping

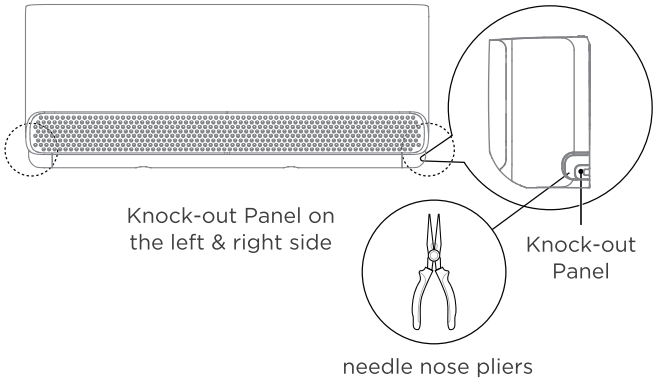
EN



Four chooses to exit the piping

Step 1:

Based on the position of the wall hole relative to the mounting plate, choose the side from which the piping will exit the unit. You have four options for the exit direction of the piping. The description of the piping angle below for details.



Step 2:

If the wall hole is behind the unit, keep the knock-out panel in place. If the wall hole is to the side of the indoor unit, remove the plastic knock-out panel from that side of the unit.Use needle nose pliers if the plastic panel is too difficult to remove by hand.
Note: Groove has been made in the knock-out panel in order to cut it conveniently. The size of the slot is determined by the diameter of pipings.

Step 3:

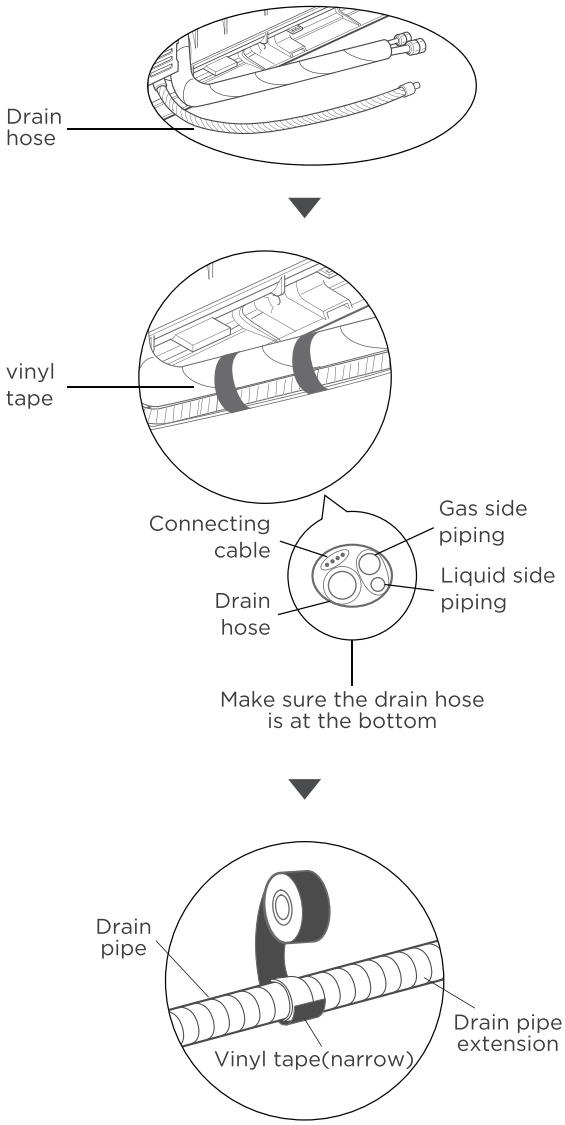
connect the indoor unit's refrigerant piping to the connective piping that will join the indoor and outdoor units. Refer to the **Refrigerant Piping Connection** section of this manual for detailed instructions.

NOTE: If existing connective piping is already embedded in the wall, proceed directly to the **Connect Drain Hose** step.

⚠ CAUTION

Be extremely careful not to dent or damage the pipes while bending them away from the unit. Any dents in the pipes will affect the unit's performance.

Connect drain hose



Step 1:

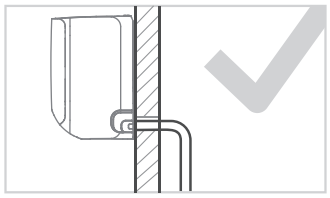
The drain hose can be attached to the left or right side. To ensure proper drainage, attach the drain hose on the same side as the refrigerant piping. Attach the drain hose extension (purchased separately) to the end of the drain hose.

- Wrap the connection point firmly with Teflon tape to ensure a good seal and to prevent leaks.
- For the portion of the drain hose that will remain indoors, wrap it with foam pipe insulation to prevent condensation.
- Remove the air filter and pour a small amount of water into the drain pan to make sure that water flows from the unit smoothly.

EN

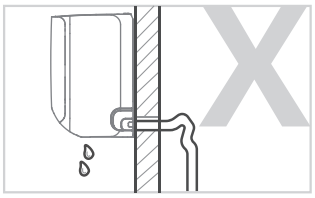
NOTE ON DRAIN HOSE PLACEMENT

Make sure to arrange the drain hose according to the following figures.



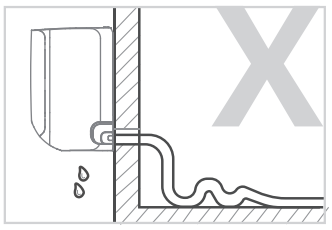
CORRECT

Make sure there are no kinks or dent in drain hose to ensure proper drainage.



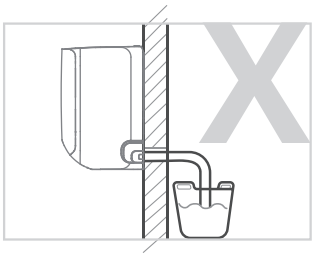
NOT CORRECT

Kinks in the drain hose will create water traps.



NOT CORRECT

Kinks in the drain hose will create water traps.

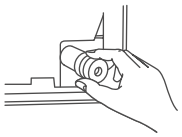


NOT CORRECT

Do not place the end of the drain hose in water or in containers that collect water. This will prevent proper drainage.

⚠ CAUTION

PLUG THE UNUSED DRAIN HOLE



To prevent unwanted leaks you must plug the unused drain hole with the rubber plug provided.

4 Electrical work preparation

⚠ WARNING

- **Before performing any electrical work, read these instructions.**
- **Before performing any electrlcal or wiring work, turn off the main power to the system.**

EN

1. All wiring must comply with local and national electrical codes, and regulations and must be installed by a licensed electrician.
2. All electrical connections must be made according to the Electrical Connection Diagram located on the panels of the indoor and outdoor units.
3. If there is a serious safety issue with the power supply, stop work immediately. Explain the situation to the client, and cease installation until the safety issue is properly resolved.
4. If connecting power to fixed wiring, a switch or circuit breaker that disconnects all poles and has a contact separation of at least 1/8in (3mm) must be incorporated in the fixed wiring. The qualified technician must use an approved circuit breaker or switch.
5. Only the unit and no other appliance or power point must be connected to an individual branch circuit outlet.
6. Make sure to properly ground the air conditioner.
7. Every wire must be firmly connected. Loose wiring can cause the terminal to overheat, resulting in product malfunction and possible fire.
8. Do not let wires touch or rest against refrigerant tubing, the compressor, or any moving parts within the unit.
9. To avoid getting an electric shock, never touch the electrical components soon after the power supply has been turned off. After turning off the power, always wait 10 minutes or more before you touch the electrical components.
10 Power voltage should be within 90-110% of rated voltage. Insufficient power supply can cause malfunction, electrical shock, or fire.

⚠ WARNING

All wiring must be performed strictly in accordance with the wiring diagram located on the back of the Indoor Unit's front panel.

Connect signal and power cables

The signal cable enables communication between the indoor and outdoor units. You must first choose the right cable size before preparing it for connection.

Cable Types(Not applicable for North America)

- Indoor Power Cable (if applicable): H05VV-F or H05V2V2-F
- Outdoor Power Cable: H07RN-F or H05RN-F
- Signal Cable: H07RN-F

Minimum Cross-Sectional Area of Power and Signal Cables (For reference)

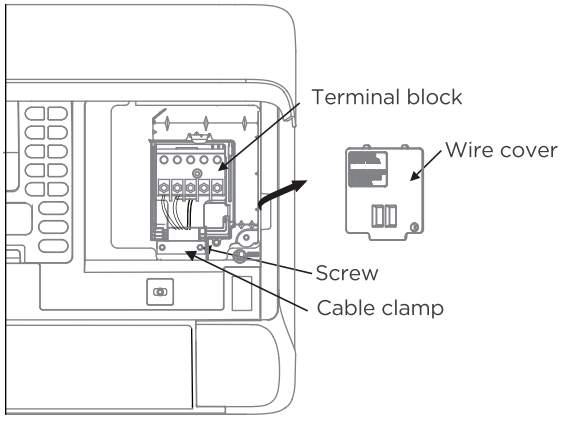
Rated Current of Appliance (A)	Nominal Cross-Sectiona Area (mm^2)
> 3 and ⩽6	0.75
> 6 and ⩽10	1
> 10 and ⩽16	1.5
> 16 and ⩽25	2.5
> 25 and ⩽32	4
> 32 and ⩽40	6

CHOOSE THE RIGHT CABLE SIZE

The size of the power supply cable, signal cable, fuse; and switch needed is determined by the maximum current of the unit. The maximum current is indicated on the nameplate located on the side panel of the unit. Refer to this nameplate to choose the right cable, fuse, or switch.

1. Open front panel of the indoor unit.
2. Using a screwdriver, open the wire box cover on the right side of the unit. This will reveal the terminal block.
3. Unscrew the cable clamp below the terminal block and place it to the side.

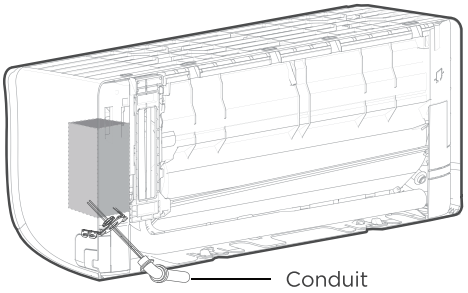
4. Remove the plastic panel on the bottom left-hand side(facing the back of the unit).
5. Feed the signal wire through this slot, from the back of the unit to the front.
6. Facing the front of the unit, connect the wire according to the indoor unit's wiring diagram, connect the u-lug and firmly screw down each wire to its corresponding terminal.
7. After checking to make sure every connection is secure, use the cable clamp to fasten the signal cable to the unit. Screw the cable clamp down tightly.
8. Replace the wire cover on the front of the unit and the plastic panel on the back.



In North America

NOTE: Choose the cable type according to the local electrical codes and regulations. Please choose the right cable size according to the Minimum Circuit Ampacity indicated on the nameplate of the unit.

1. Facing the back of the unit, remove the plastic panel on the bottom left-hand side.
2. As shown in the illustration, insert the wires including the ground wire into the conduit and secure them with the lock nut onto the conduit mounting plate.
3. Match wire colors with terminal numbers on the indoor and outdoor unit's terminal blocks and firmly screw down the wires to the corresponding terminals.
4. Connect the ground wires to the corresponding terminals.
5. Pull the wires and check that the wires are securely fixed to the terminal block.



⚠ DO NOT MIX UP LIVE AND NULL WIRES

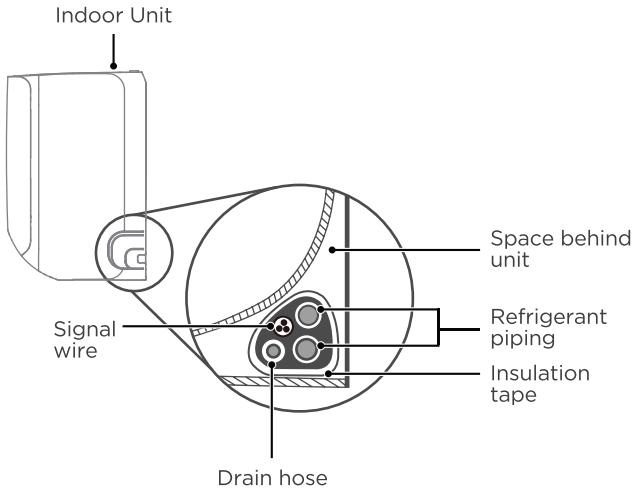
This is dangerous and can cause the air conditioning unit to malfunction.

5 Wrap piping & Cables

NOTE

Before passing the piping, and drain hose and the signal cable through the wall hole, you must bundle them together to save space, protect them, and insulate them.

EN

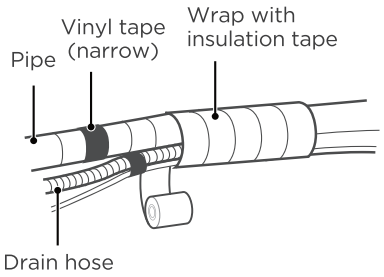


Step 1:

Bundle the drain hose, refrigerant pipes, and signal cable as shown in the figure(Not applicable for some locations in North America).

Step 2:

Using adhesive vinyl tape, attach the drain hose to the underside of the refrigerant pipes.



Step 3:

Using insulation tape, wrap the refrigerant pipes, signal wire and drain hose tightly together. Double-check that all items are bundled.

Do not intertwine signal cable with other wires

While bundling these items together,do not intertwine or cross the signal cable with any other wiring.

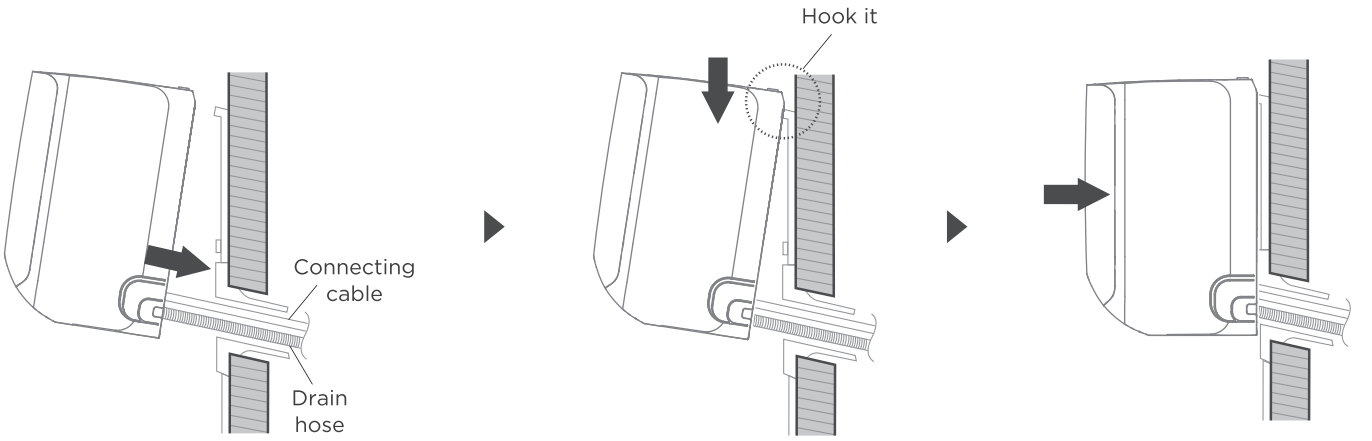
THE DRAIN HOSE MUST BE ON THE BOTTOM

Make sure that the drain hose is at the bottom of the bundle. Putting the drain hose at the top of the bundle can cause the drain pan to overflow, which can lead to fire or water damage.

DO NOT WRAP THE ENDS OF THE PIPING

When wrapping the bundle, keep the ends of the piping unwrapped. You need to access them to test for leaks at the end of the installation process (refer to Electrical Checks and Leak Checks section of this manual).

6 Mount indoor unit



Put pipes in wall hole

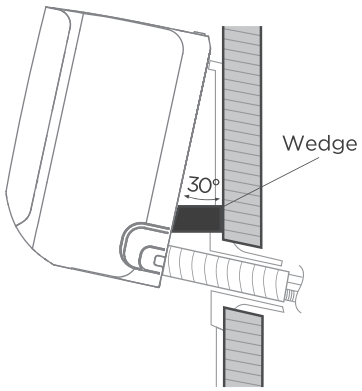
Hook it and press down lightly to secure

Check that the unit is firmly mounted

EN

If you installed new connective piping to the outdoor unit, do the following:

- If you have already passed the refrigerant piping through the hole in the wall, proceed to Step 4.
- Otherwise, double-check that the ends of the refrigerant pipes are sealed to prevent dirt or foreign materials from entering the pipes.
- Slowly pass the wrapped bundle of refrigerant pipes, drain hose and signal wire through the hole in the wall.
- Hook the top of the indoor unit on the upper hook of the mounting plate.
- Check that the unit is hooked firmly on the mounting plate by applying slight pressure to the left and right-hand sides of the unit. The unit should not jiggle or shift.
- Using even pressure, push down on the bottom half of the unit. Keep pushing down until the unit snaps onto the hooks along the bottom of the mounting plate.
- Again, check that the unit is firmly mounted by applying slight pressure to the left and the right-hand sides of the unit.

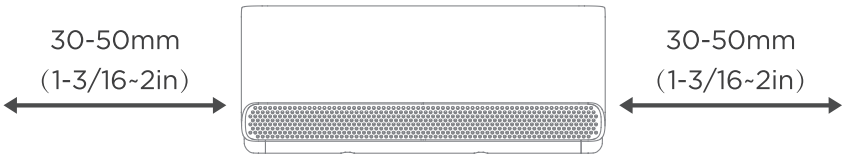


If the refrigerant piping is already embedded in the wall, do the following:

- Hook the top of the indoor unit on the upper hook of the mounting plate.
- Use a bracket or wedge to prop up the unit, giving you enough room to connect the refrigerant piping, signal cable and drain hose.
- Connect drain hose and refrigerant piping (refer to **Refrigerant Piping Connection** section of this manual for instructions).
- Keep the pipe connection point exposed to perform the leak test (refer to **Electrical Checks** and **Leak Checks section** of this manual).
- After the leak test, wrap the connection point with insulation tape.
- Remove the bracket or wedge that is propping up the unit.
- Using even pressure, push down on the bottom half of the unit. Keep pushing down until the unit snaps onto the hooks along the bottom of the mounting plate.

NOTE : UNIT IS ADJUSTABLE

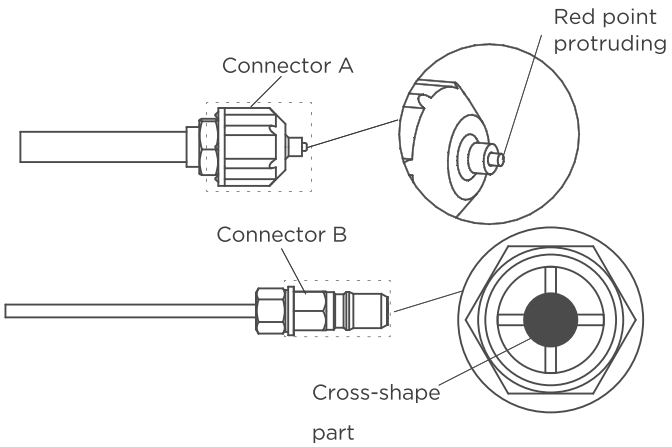
Keep in mind that the hooks on the mounting plate are smaller than the holes on the back of the unit. If you find that you don't have ample room to connect embedded pipes to the indoor unit, the unit can be adjusted left or right by about 30-50mm (1.18-1.96in), depending on the model.



Move to left or right

⚠ CAUTION

For the units adopt the following pipe connectors, please strictly perform the piping work in accordance with the following instructions.



- Before performing the refrigerant piping connection, always wear work gloves and goggles and remember that the connectors A and B are not allowed to face people directly.
- Keep pressing the cross-shape part of connector B with a tool for about 5~10 seconds until the red protruding point of connector A retracts completely.
- Remove connectors A and B, then perform the refrigerant piping connection between indoor unit and outdoor unit.

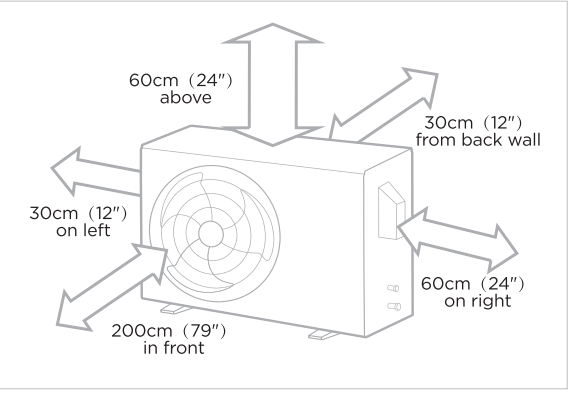
Installation Of Outdoor Unit

1 Select installation location

NOTE : PRIOR TO INSTALLATION

Before installing the outdoor unit, you must choose an appropriate location. The following are standards that will help you choose an appropriate location for the unit.

Proper installation locations meet the following standards:



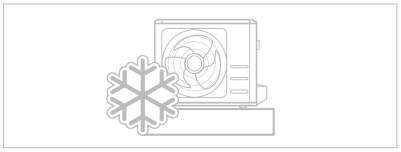
☑ Meets all spatial requirements shown in Installation Space Requirements above.

☑ Good air circulation and ventilation.

☑ Firm and solid—the location can support the unit and will not vibrate.

☑ Noise from the unit will not disturb other people.

☑ Protected from prolonged periods of direct sunlight or rain.



☑ Where snowfall is anticipated, take appropriate measures to prevent ice buildup and coil damage.

NOTE Install the unit by following local codes and regulations , there may be differ slightly between different regions.

⚠ CAUTION:

SPECIAL CONSIDERATIONS FOR EXTREME WEATHER

If the unit is exposed to heavy wind:

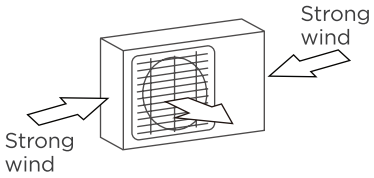
Install unit so that air outlet fan is at a 90° angle to the direction of the wind. If needed, build a barrier in front of the unit to protect it from extremely heavy winds. See illustrations below.

If the unit is frequently exposed to heavy rain or snow:

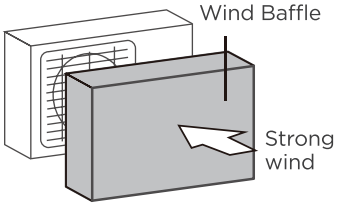
Build a shelter above the unit to protect it from the rain or snow. Be careful not to obstruct air flow around the unit.

If the unit is frequently exposed to salty air(seaside):

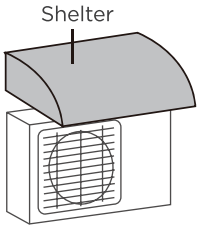
Use outdoor unit that is specially designed to resist corrosion.



90° angle to the direction of the wind



Build a wind Baffle to protect the unit



Build a shelter to protect the unit

DO NOT install unit in the following locations:

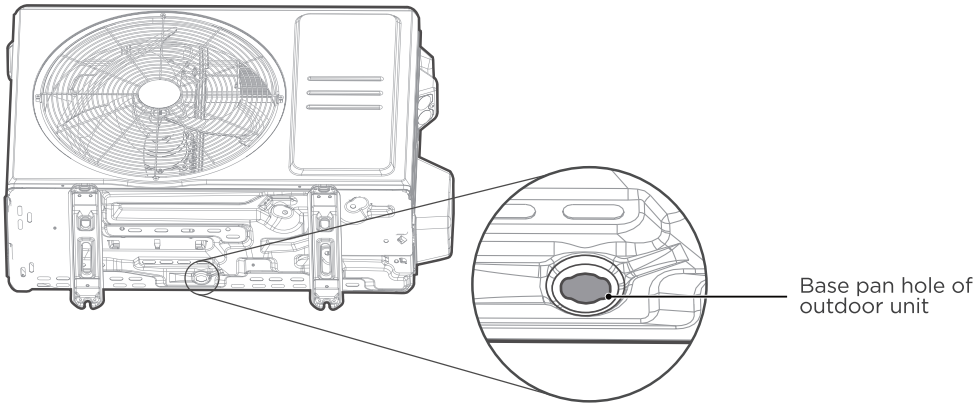
- ⊘ Near an obstacle that will block air inlets and outlets.
- ⊘ Near a public street, crowded areas, or where noise from the unit will disturb others.
- ⊘ Near animals or plants that will be harmed by hot air discharge.
- ⊘ Near any source of combustible gas.
- ⊘ In a location that is exposed to large amounts of dust
- ⊘ In a location exposed to a excessive amounts of salty air.

2 Install drain joint(Heat pump unit only)

NOTE : PRIOR TO INSTALLATION

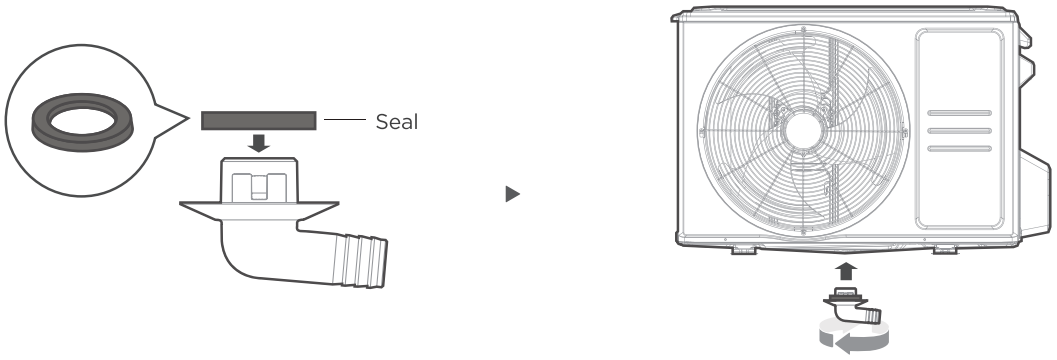
Before bolting the outdoor unit in place, you must install the drain joint at the bottom of the unit. For the units with built in base pan with multiple holes for draining , the drain joint does not need to be installed.

EN



Step 1:

Find out the base pan hole of outdoor unit.



Step 2:

- Fit the rubber seal on the end of the drain joint that will connect to the outdoor unit.
- Insert the drain joint into the hole in the base pan of the unit. The drain joint will click in place.
- Connect a drain hose extension (not included) to the drain joint to redirect water from the unit during heating mode.

NOTE : IN COLD CLIMATES

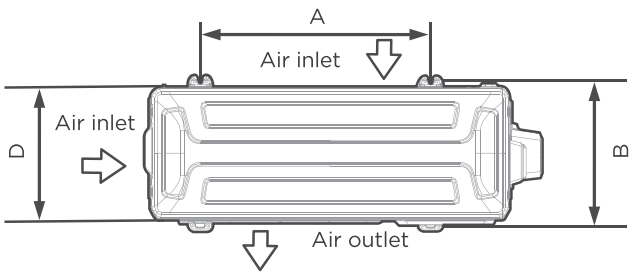
In areas with cold climates, make sure that the drain hose is as vertical as possible to ensure swift water drainage. If water drains too slowly, it can freeze in the hose and flood the unit.

3 Anchor Outdoor Unit

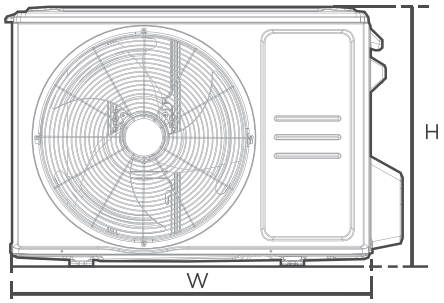
⚠ WARNING

WHEN DRILLING INTO CONCRETE, EYE PROTECTION IS RECOMMENDED AT ALL TIME.

- The outdoor unit can be anchored to the ground or to a wall-mounted bracket with bolt(M10). Prepare the installation base of the unit according to the dimensions below.
- The following is a list of different outdoor unit sizes and the distance between their mounting feet.



Top view



Front view

Outdoor Unit Dimensions (mm)	Mounting Dimensions	
W x H x D	Distance A (mm)	Distance B (mm)
668x458x243 (26.3"x 18.0"x 9.57")	430 (16.9")	231 (9.1")
680x542x248 (26.8"x 21.3"x 9.8")	452 (17.8")	230 (9.1")
720x495x270 (28.3"x 19.5"x 10.6")	452 (17.8")	255 (10.0")
765x555x303 (30.1"x 21.8"x 11.9")	452 (17.8")	286(11.3")
805x554x330 (31.7"x 21.8"x 12.9")	511 (20.1")	317 (12.5")
890x673x342 (35.0"x 26.5"x 13.5")	663 (26.1")	354 (13.9")
946x810x420 (37.2"x 31.9"x 16.5")	673 (26.5")	403 (15.9")
946x810x410 (37.2"x 31.9"x 16.1")	673 (26.5")	403 (15.9")

If you install the unit on the ground or on a concrete mounting platform, do the following:

- Mark the positions for four expansion bolts based on the dimensions chart.
- Pre-drill holes for expansion bolts.
- Place a nut on the end of each expansion bolt.
- Hammer expansion bolts into the pre-drilled holes.
- Remove the nuts from the expansion bolts and place outdoor unit on bolts.
- Put a washer on each expansion bolt and the replace the nuts.
- Using a wrench, tighten each nut until snug.

If you install the unit on a wall-mounted bracket , do the following:

- Mark the position of bracket holes based on dimensions chart.
- Pre-drill the holes for the expansion bolts.
- Place a washer and nut on the end of each expansion bolt.
- Thread expansion bolts through holes in mounting brackets, put mounting brackets in position and hammer expansion bolts into the wall.
- Check that the mounting brackets are level.
- Carefully lift unit and place its mounting feet on the brackets.
- Bolt the unit firmly to the brackets.
- If allowed, install the unit with rubber gaskets to reduce vibrations and noise.

⚠ CAUTION

Make sure that the wall is made of solid brick, concrete or of a similarly strong material. The wall must be able to support at least four times the weight of the unit.

4 Connect signal and power cables

⚠ WARNING - Before the Operation

- All wiring work must be performed strictly in accordance with the wiring diagram located inside of the wire cover of the outdoor unit.
- Before performing any electrical or wiring work,turn off the main power to the system.

EN

Prepare the cable for connection

Please choose the right cable according to the “Cable types” in page 15.

- Using wire strippers, strip the rubber jacket from both ends of cable to reveal about 40mm (1.57in) of the wires inside.
- Strip the insulation from the ends of the wires.
- Using a wire crimper, crimp u-lugs on the ends of the wires.

Choose the right cable size

The size of the power supply cable, signal cable, fuse, and switch needed is determined by the maximum current of the unit. The maximum current is indicated on the nameplate located on the side panel of the unit.

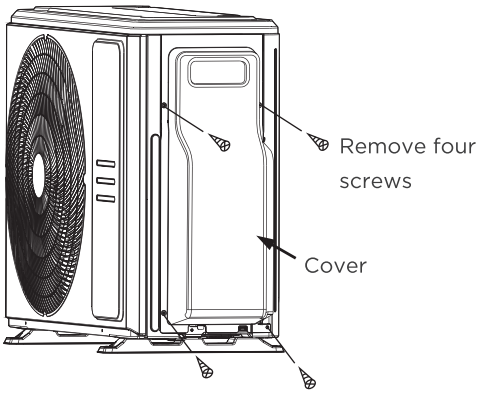
Pay attention to live wire

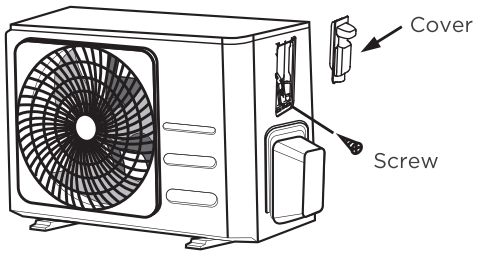
While crimping wires, make sure you clearly distinguish the Live (“L”) Wire from other wires.

The outside unit’s terminal block is protected by an electrical wiring cover on the side of the unit. A comprehensive wiring diagram is sticked on the inside of the wiring cover.

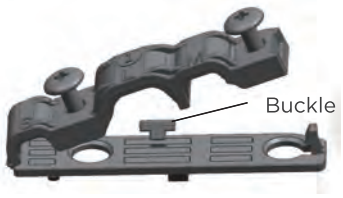
- Unscrew the electrical wiring cover and remove it.
- Unscrew the cable clamp below the terminal block and place it to the side.
- Connect the wire according to the wiring diagram, and firmly screw the u-lug of each wire to its corresponding terminal.
- After checking to make sure every connection is secure, loop the wires around to prevent rain water from flowing into the terminal.
- Using the cable clamp, fasten the cable to the unit. Screw the cable clamp down tightly.
- Insulate unused wires with PVC electrical tape. Arrange them so that they do not touch any electrical or metal parts.
- Replace the wire cover on the side of the unit, and screw it in place.

NOTE: The unit you purchased may be slightly different.The illustrations are for explanatory purposes. The actual shape shall prevail.

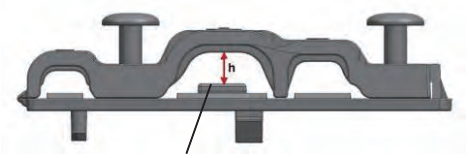




NOTE: If the cable clamp looks like the following, please select the appropriate through-hole according to the diameter of the wire.



Three size hole: Small, Large, Medium



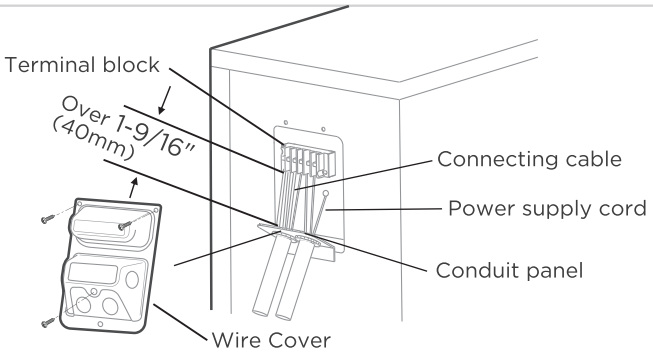
When the calbe is not fasten enough, use the buckle to prop it up , so it can be clamped tightly.

In North America

The outside unit's terminal block is protected by an electrical wiring cover on the side of the unit. A comprehensive wiring diagram is sticked on the inside of the wiring cover.

- Remove the wire cover from the unit by loosening the 3 screws.
- Dismount caps on the conduit panel.
- Temperarily mount the conduit tubes(not included) on the conduit panel.
- Properly connect both the power supply and low voltage lines to the corresponding terminals on the terminal block.
- Ground the unit in accordance with local codes.
- Be sure to size each wire allowing several inches longer than the required length for wiring.
- Use lock nuts to secure the conduit tubes.

NOTE: Please choose the right cable size according to the Minimum Circuit Ampacity indicated on the nameplate of the unit.



Please select the appropriate through-hole according to the diameter of the wire.

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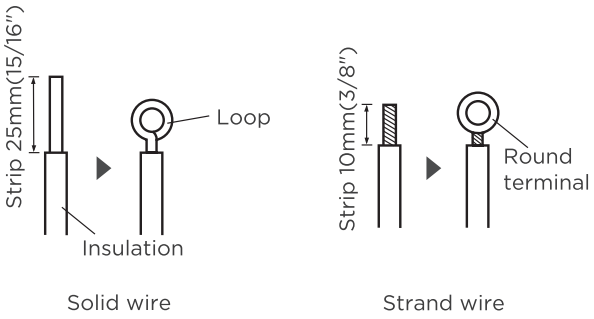
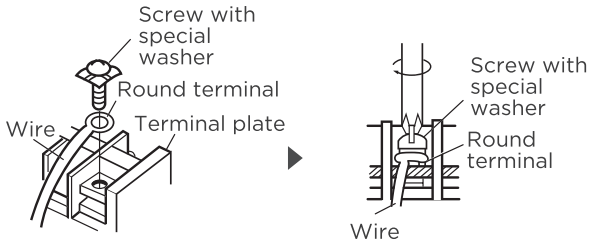
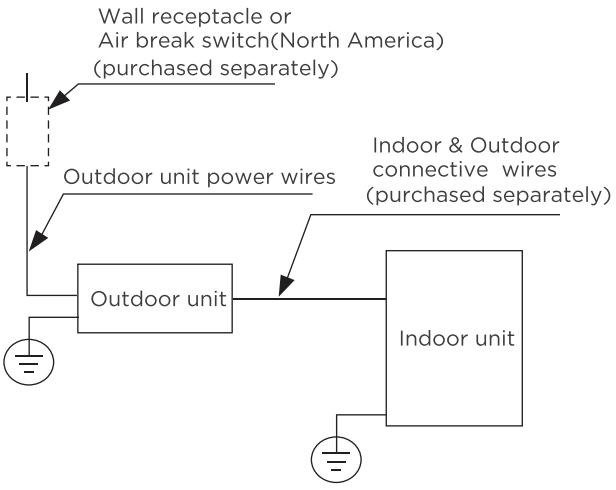
How to properly connect the wire lines.





Step 1:

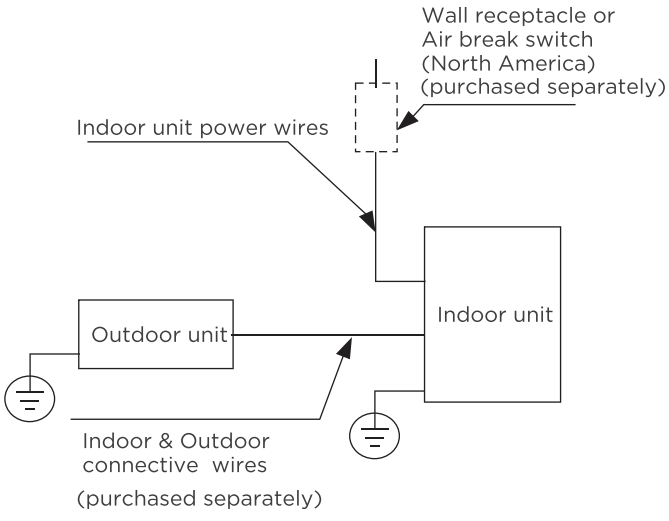
Termination of wire:



(A)

Step 2:

Connecting the line to the corresponding terminals on the terminal block.



(B)

Refrigerant Piping Connection

1 Piping Connection Precautions

⚠ WARNING

WHEN CONNECTING REFRIGERANT PIPING, **DO NOT** LET SUBSTANCES OR GASES OTHER THAN THE SPECIFIED REFRIGERANT ENTER THE UNIT. THE PRESENCE OF OTHER GASES OR SUBSTANCES WILL LOWER THE UNIT'S CAPACITY AND CAN CAUSE ABNORMALLY HIGH PRESSURE IN THE REFRIGERATION CYCLE. THIS CAN CAUSE EXPLOSION AND INJURY.

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Note on Pipe Length

The length of refrigerant piping will affect the performance and energy efficiency of the unit. Nominal efficiency is tested on units with a pipe length of 5 meters (16.5ft). A minimum pipe run of 3 metres is required to minimise vibration & excessive noise.

Maximum Length and Drop Height of Refrigerant Piping per Unit Model

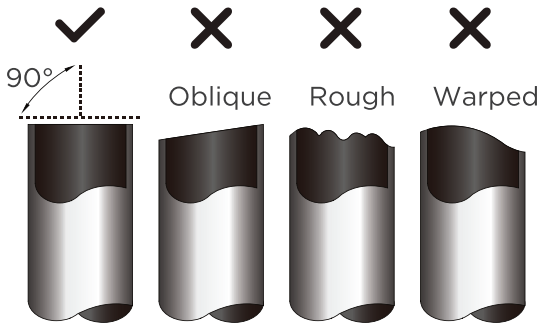
Model	Capacity (BTU/h)	Max. Length (m)	Max. Drop Height (m)
R410A,R32 Inverter Split Air Conditioner	< 15,000	25 (82ft)	10 (33ft)
	≥ 15,000 and < 24,000	30 (98.5ft)	20 (66ft)
	≥ 24,000 and < 36,000	50 (164ft)	25 (82ft)
	≥ 36,000 and < 60,000	65 (213ft)	30 (98.5ft)
R22 Fixed-speed Split Air Conditioner	< 18,000	10 (33ft)	5 (16ft)
	≥ 18,000 and < 21,000	15 (49ft)	8(26ft)
	≥ 21,000 and < 35,000	20 (66ft)	10(33ft)
	≥ 35,000 and < 41,000	25 (82ft)	10 (33ft)
R410A, R32 Fixed-speed Split Air Conditioner	< 18,000	20 (66ft)	8(26ft)
	≥ 18,000 and < 36,000	25 (82ft)	10(33ft)
	≥ 36,000 and < 60,000	30 (98.5ft)	15 (49ft)

Connection Instructions – Refrigerant Piping

Step 1: Cut pipes

When preparing refrigerant pipes, take extra care to cut and flare them properly. This will ensure efficient operation and minimize the need for future maintenance.

- Measure the distance between the indoor and outdoor units.
- Using a pipe cutter, cut the pipe a little longer than the measured distance.
- Make sure that the pipe is cut at a perfect 90° angle.



⊘ DO NOT DEFORM PIPE WHILE CUTTING

Be extra careful not to damage, dent; or deform the pipe while cutting. This will drastically reduce the heating efficiency of the unit.

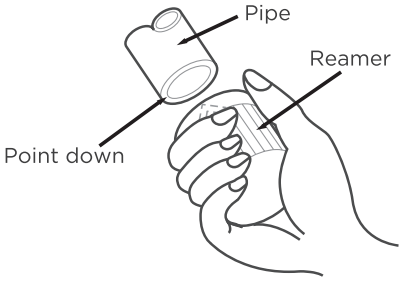
⚠ CAUTION

CHECK THAT PIPE WAS FLARED EVENLY AND THAT THERE ARE NO CRACKS.
ENSURE THE PIPE IS SEALED.

Step 2: Remove burrs

Burrs can affect the air-tight seal of the refrigerant piping connection. They must be completely removed.

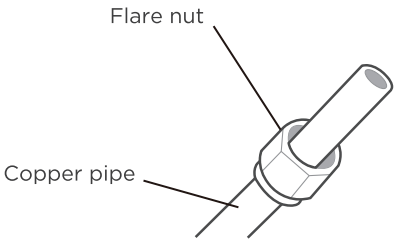
- Hold the pipe at a downward angle to prevent burrs from falling into the pipe.
- Using a reamer or deburring tool, remove all burrs from the cut section of the pipe.



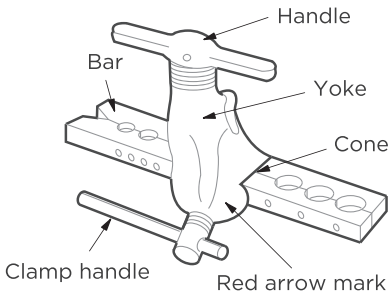
Step 3: Flare pipe ends

Proper flaring is essential to achieve an airtight seal.

- After removing burrs from cut pipe, seal the ends with PVC tape to prevent foreign materials from entering the pipe.
- Sheath the pipe with insulating material.
- Place flare nuts on both ends of pipe. Make sure they are facing in the right direction, because you can't put them on or change their direction after flaring.



- Remove PVC tape from ends of the pipe when ready to perform the flaring process.
- Clamp flare form on the end of the pipe. The end of the pipe must extend beyond the edge of the flare form in accordance with the dimensions shown in the table below.



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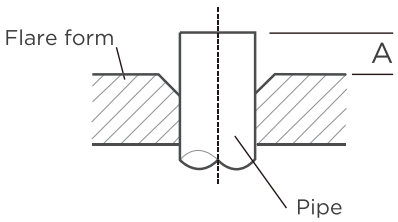
PIPING EXTENSION BEYOND FLARE FORM

Outer Diameter of Pipe (mm)	A (mm)	
	Min.	Max.
Ø 6.35 (Ø 1/4")	0.7 (0.0275")	1.3 (0.05")
Ø 9.52 (Ø 3/8")	1.0 (0.04")	1.6 (0.063")
Ø12.7 (Ø 1/2")	1.0 (0.04")	1.8 (0.07")
Ø 16 (Ø 5/8")	2.0 (0.078")	2.2 (0.086")
Ø 19 (Ø 3/4")	2.0 (0.078")	2.4 (0.094")



- Place flaring tool onto the form.
- Turn the handle of the flaring tool clockwise until the pipe is fully flared.
- Remove the flaring tool and flare form, then inspect the end of the pipe for cracks and even flaring.

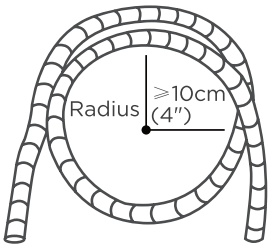
2 Refer to Torque Requirement to connect pipes

⚠ CAUTION

WHEN CONNECTING REFRIGERANT PIPES, BE CAREFUL NOT TO USE EXCESSIVE TORQUE OR TO DEFORM THE PIPING IN ANY WAY. YOU SHOULD FIRST CONNECT THE LOW-PRESSURE PIPE, THEN THE HIGH-PRESSURE PIPE.

MINIMUM BEND RADIUS

When bending connective refrigerant piping, the minimum bending radius is 10cm.



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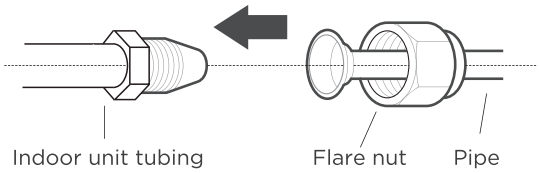
Instructions for Connecting Piping to Indoor Unit

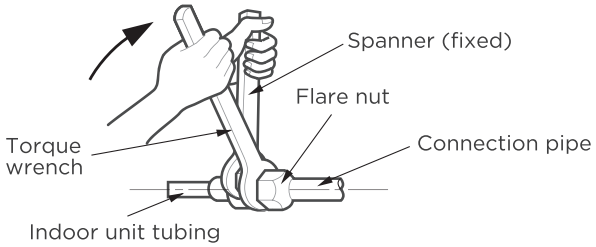
Step 1:

- Align the center of the two pipes that you will connect.

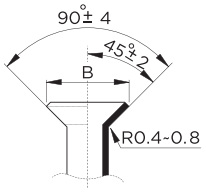


Step 2:

- Tighten the flare nut as tightly as possible by hand.
- Using a spanner, grip the nut on the unit tubing.
- While firmly gripping the nut on the unit tubing, use a torque wrench to tighten the flare nut according to the torque values in the Torque Requirements table below. Loosen the flaring nut slightly, then tighten again.



TORQUE REQUIREMENTS

Outer Diameter of Pipe(mm)	Tightening Torque(N•m)	Flare dimension(B)(mm)	Flare shape
Ø 6.35 (Ø 1/4")	18~20(180~200kgf.cm)	8.4~8.7 (0.33~0.34")	
Ø 9.52 (Ø 3/8")	32~39(320~390kgf.cm)	13.2~13.5 (0.52~0.53")	
Ø 12.7 (Ø 1/2")	49~59(490~590kgf.cm)	16.2~16.5 (0.64~0.65")	
Ø 16 (Ø 5/8")	57~71(570~710kgf.cm)	19.2~19.7 (0.76~0.78")	
Ø 19 (Ø 3/4")	67~101(670~1010kgf.cm)	23.2~23.7 (0.91~0.93")	

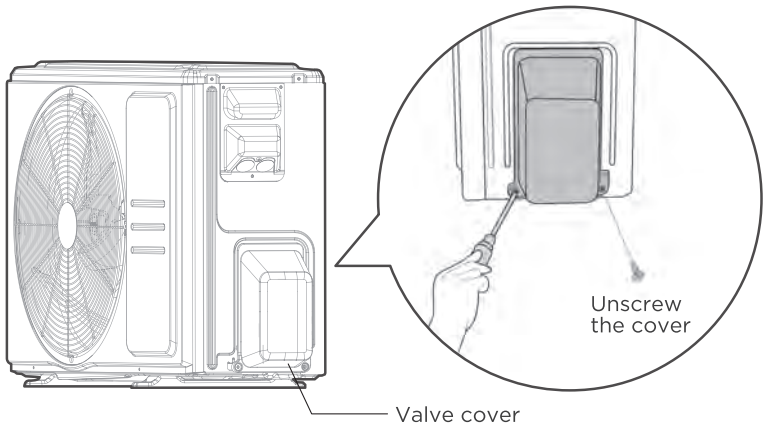
⊘ DO NOT USE EXCESSIVE TORQUE

Excessive force can break the nut or damage the refrigerant piping. You must not exceed the torque specifications shown in the table above.

3 Connecting Piping to Outdoor Unit

NOTE

This section still needs to be operated according to the **TORQUE REQUIREMENTS** chart on the previous page.



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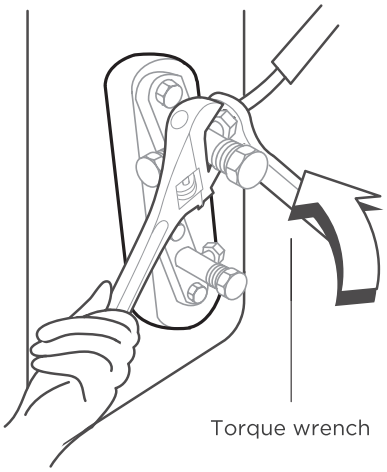
Step 1:

- Unscrew the cover from the packed valve on the side of the outdoor unit.

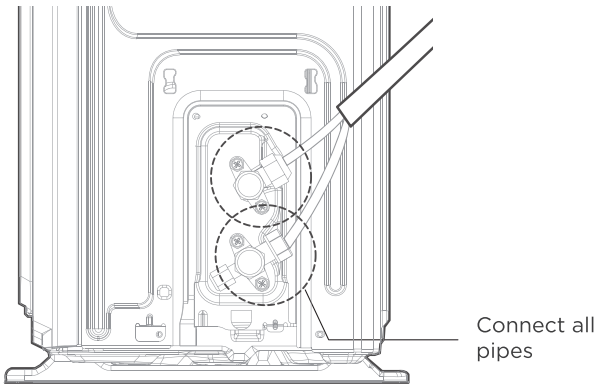


Step 2:

- Remove protective caps from ends of valves.
- Align flared pipe end with each valve, and tighten the flare nut as tightly as possible by hand.
- Using a spanner, grip the body of the valve. **Do not** grip the nut that seals the service valve.

USE SPANNER TO GRIP MAIN BODY OF VALVE

Torque from tightening the flare nut can snap off other parts of valve.



Step 3:

- While firmly gripping the body of the valve, use a torque wrench to tighten the flare nut according to the correct torque values.
- Loosen the flaring nut slightly, then tighten again.
- Repeat Steps 1 to 3 for the remaining pipe.

Air Evacuation

NOTE ：PREPARATIONS AND PRECAUTIONS

Air and foreign matter in the refrigerant circuit can cause abnormal rises in pressure, which can damage the air conditioner, reduce its efficiency and cause injury. Use a vacuum pump and manifold gauge to evacuate the refrigerant circuit, removing any non-condensable gas and moisture from the system. Evacuation should be performed upon initial installation or if the unit is relocated.

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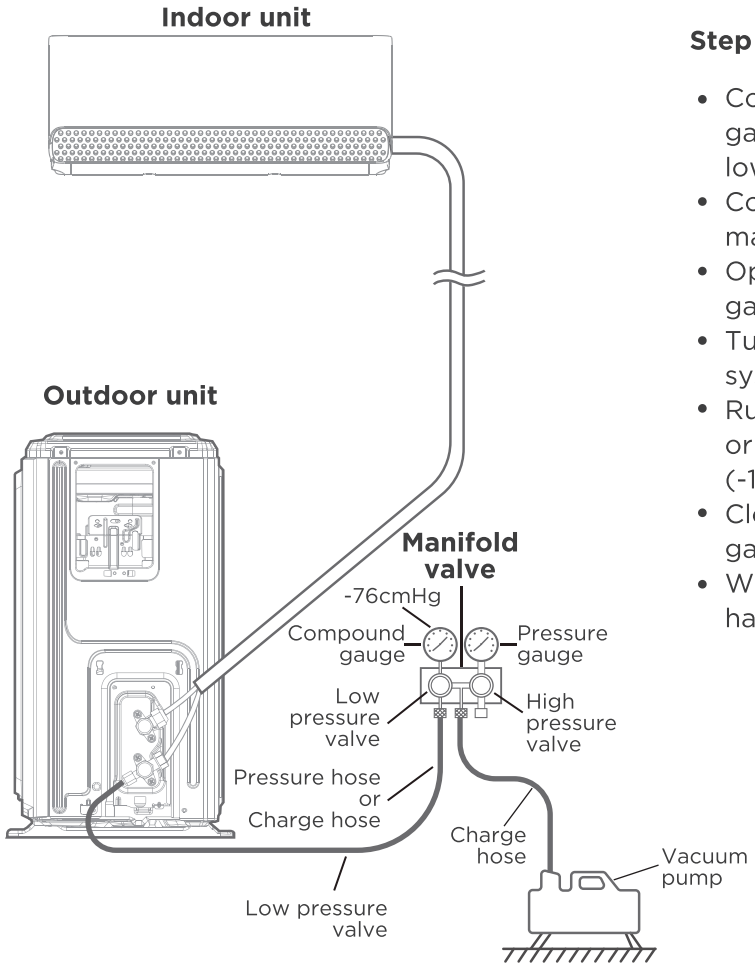
BEFORE PERFORMING EVACUATION

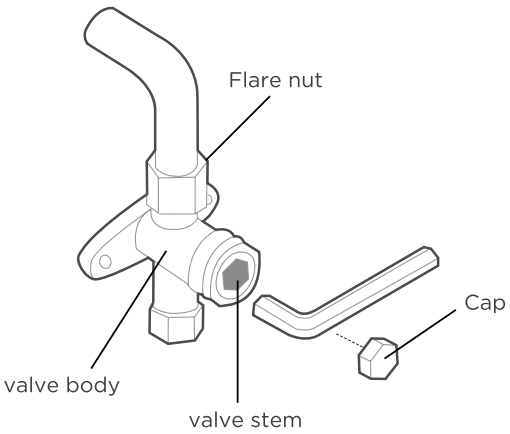
- ☑ Make sure the connective pipes between the indoor and outdoor units are connected properly.
- ☑ Check to make sure all wiring is connected properly.

Evacuation Instructions



Step 1:

- Connect the charge hose of the manifold gauge to the service port on the outdoor unit's low pressure valve.
- Connect another charge hose from the manifold gauge to the vacuum pump.
- Open the low pressure side of the manifold gauge. Keep the high pressure side closed.
- Turn on the vacuum pump to evacuate the system.
- Run the vacuum pump for at least 15 minutes, or until the compound meter reads -76cmHG (-10 Pa).
- Close the Low Pressure side of the manifold gauge and turn off the vacuum pump.
- Wait for 5 minutes, then check that there has been no change in system pressure.



Step 2:

- If there has been a change in system pressure, refer to the Gas Leak Check section for information on how to check for leaks.
- If there is no change in system pressure, unscrew the cap from the packed valve (high pressure valve).
  Insert hexagonal wrench into the packed valve(high pressure valve) and open the valve by turning the wrench in a 1/4 counter clockwise turn. Listen for gas to exit the system, then close the valve after 5 seconds.
- Watch the Pressure Gauge for one minute to make sure that there is no change in pressure. The Pressure Gauge should read slightly higher than atmospheric pressure.
- Remove the charge hose from the service port.
- Using a hexagonal wrench, fully open both the high pressure and low pressure valves.
- Tighten valve caps on all three valves (service port, high pressure and low pressure) by hand. You may tighten it further using a torque wrench if needed.

EN

OPEN VALVE STEMS GENTLY

When opening valve stems, turn the hexagonal wrench until it hits against the stopper. Do not try to force the valve to open further.

NOTE ON ADDING REFRIGERANT

Some systems require additional charging depending on pipe lengths. The standard pipe length varies according to local regulations. For example, in North America, the standard pipe length is 7.5m (25'). In other areas, the standard pipe length is 5m (16'). The refrigerant should be charged from the service port on the outdoor unit's low pressure valve. The additional refrigerant to be charged can be calculated using the following formula:

ADDITIONAL REFRIGERANT PER PIPE LENGTH

Connective Pipe Length (m)	Air Purging Method	Additional Refrigerant	
≤ Standard pipe length	Vacuum Pump	N/A	
> Standard pipe length	Vacuum Pump	Liquid Side: Ø 6.35 (1/4") R410A: (Pipe length – standard length) x 15g/m (Pipe length – standard length) x 0.16oZ/ft R32: (Pipe length – standard length) x 12g/m (Pipe length – standard length) x 0.13oZ/ft R22: (Pipe length – standard length) x 20g/m (Pipe length – standard length) x 0.21oZ/ft	Liquid Side: Ø 9.52 (3/8") R410A: (Pipe length – standard length) x 30g/m (Pipe length – standard length) x 0.32oZ/ft R32: (Pipe length – standard length) x 24g/m (Pipe length – standard length) x 0.26oZ/ft R22: (Pipe length – standard length) x 40g/m (Pipe length – standard length) x 0.42oZ/ft

DO NOT MIX REFRIGERANT TYPES.

Electrical and Gas Leak Checks

⚠ WARNING - RISK OF ELECTRIC SHOCK

ALL WIRING MUST COMPLY WITH LOCAL AND NATIONAL ELECTRICAL CODES AND MUST BE INSTALLED BY A LICENSED ELECTRICIAN.

BEFORE TEST RUN

EN

Only perform test run after you have completed the following steps:

- Electrical Safety Checks – Confirm that the unit's electrical system is safe and operating properly
- Gas Leak Checks – Check all flare nut connections and confirm that the system is not leaking
- Confirm that gas and liquid (high and low pressure) valves are fully open

Electrical Safety Checks

After installation, confirm that all electrical wiring is installed in accordance with local and national regulations and according to the Installation Manual.

BEFORE TEST RUN

Check Grounding Work

Measure grounding resistance by visual detection and with grounding resistance tester.

DURING TEST RUN

Check for Electrical Leakage

During the **Test Run**, use an electroprobe and multimeter to perform a comprehensive electrical leakage test.

If electrical leakage is detected, turn off the unit immediately and call a licensed electrician to find and resolve the cause of the leakage.

Note: This may not be required for some locations in North America.

Gas Leak Checks

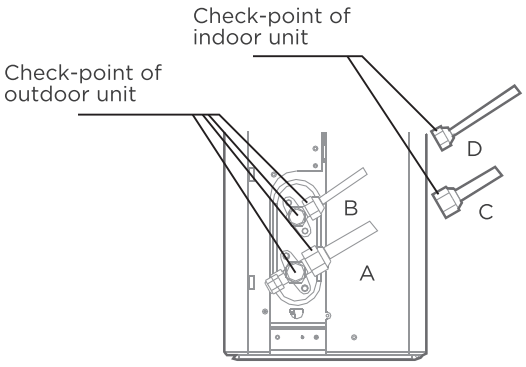
There are two different methods to check for gas leaks.

Soap and Water Method

Using a soft brush, apply soapy water or liquid detergent to all pipe connection points on the indoor unit and outdoor unit. The presence of bubbles indicates a leak.

Leak Detector Method

If using leak detector, refer to the device's operating manual for proper usage instructions.



A: Low pressure stop valve
B: High pressure stop valve
C& D: Indoor unit flare nuts

AFTER PERFORMING GAS LEAK CHECKS

After confirming that the all the pipe connection points DO NOT leak, replace the valve cover on the outside unit.

Test Run

Test Run Instructions

You should perform the **Test Run** for at least 30 minutes.

- Connect power to the unit.
- Press the **ON/OFF** button on the remote controller to turn it on.
- Press the **MODE** button to scroll through the following functions, one at a time:
  - COOL–Select lowest possible temperature
  - HEAT–Select highest possible temperature
- Let each function run for 5 minutes and perform the following checks:

List of Checks to Perform	PASS/FAIL	
No electrical leakage		
Unit is properly grounded		
All electrical terminals properly covered		
Indoor and outdoor units are solidly installed		
All pipe connection points do not leak	Outdoor (2):	Indoor (2):
Water drains properly from drain hose		
All piping is properly insulated		
Unit performs COOL function properly		
Unit performs HEAT function properly		
Indoor unit louvers rotate properly		
Indoor unit responds to remote controller		

DOUBLE-CHECK PIPE CONNECTIONS

During operation, the pressure of the refrigerant circuit will increase. This may reveal leaks that were not present during your initial leak check. Take time during the Test Run to double-check that all refrigerant pipe connection points do not have leaks. Refer to **Gas Leak Check** section for instructions.

EN

- After the Test Run is successfully completed and you confirm that all checks points in the List of Checks to Perform have PASSED, do the following:
  a. Using remote control, return unit to normal operating temperature.
  b. Using insulation tape, wrap the indoor refrigerant pipe connections that you left uncovered during the indoor unit installation process.

IF AMBIENT TEMPERATURE IS BELOW 16°C(60°F)

You can't use the remote controller to turn on the COOL function when the ambient temperature is below 16°C/62°F. In this instance, you can use the **MANUAL CONTROL** button to test the COOL function.

- Lift the front panel of the indoor unit and raise it until it clicks in place.
- The **MANUAL CONTROL** button is located on the right-hand side of the unit. Press it 2 times to select the COOL function.
- Perform Test Run as normal.